

AF/IFW



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/521,897 Confirmation No. : 7143
Applicant : **John O. GUROSIK**
Filed : January 18, 2005
Title : **COUPLING APPARATUS**
Group Art Unit : 3679
Examiner : Michael P. Ferguson
Customer No. : 28289

To Whom It May Concern:

Please view the CD to help understand the working characteristics of the quick-attach.

This quick-attach will not become disconnected by pulling pins, it takes multiple, in-order movements to disengage the implement plate and mother plate. This quick-attach does not depend on pins to bear the brunt of the wear factor. The prototype on the CD is 6 ½ years old with the paint still on the implement plate and mother plate surfaces.

Thank you,

Timber Harvesters Inc.

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I will try to address the difference between patent application no. 10/521,897 and the Anderson et al. (US 4,663,922).

In the drawings on the Anderson coupler listed U.S. Patent May 12, 1987 sheet 1 of 2 4,663,922 an end view of the Anderson coupler can be reviewed. In Figure 2 it shows 2 elements. The first element I will refer to as the mother plate or "MP" for short. The "MP" element is fixed on the host tractor. The second element will be referred to as the implement plate or "IP". This element plate attaches to various tools to be placed on the host tractor for different but specific jobs.

As you will note, the surface of "IP" 20 mates with surface "MP" 36 and is locked or held in place by pin 74. Without this pin in place, "IP" would fall or become disconnected from "MP". This is an effective coupler for lighter duty stress loads. The coupler on patent application no. 10/521,897 has a large mating surface. This coupler is designed to absorb extreme tipping and lifting loads without depending on locking pins to hold "IP" plate and "MP" plate together. As you will note on page 1 with figures, figure 1 "IP" and figure 2 "MP", in area no. 3 + 4 are mismatched angles only for a portion of the radius. When the top of the "MP" element is inserted under "IP" element and lifted upward two things happen: surface 3 mates with surface 4 only in the area shown leaving a gap space in area 8. Also no. 5 slides through tapered surfaces 6 followed by lock safety pin 7 dropping through tapered slot 11 in plate 5 connected to "IP" element protruding through "MP" element slot 6 thus wedging surface 10 "MP" element and surface 11 "IP" element together as one. The top of the "IP" element 8 combined with the wedging characteristics of "IP" element 3 and "MP" element 4 driving the two surfaces "IP" 11 and "MP" 10 tighter together spread the lifting force and the prying force of the host

tractor over the entire mating surface of element "IP" and element "MP" rather than depending on lock pins to take the entire load as demonstrated on Anderson et al. It has been demonstrated, 8 hours of work with this coupler holding the blade on the dozer no lock pins were installed, and blade was not lost. Small safety bar 13 on "IP" element will not allow "MP" element 10 to drop down low enough to become disconnected without multiple movements being made to disconnect. This quick attach is also designed to allow the operator to pick up the blade from a face down position without leaving the seat or using the aid of another lifting device.